Appl. No.: 10/649,716
Amdt. dated 01/11/2006
Reply to Office action of 10/18/2005

REMARKS/ARGUMENTS

Claims 1-40 are pending in the present application. The Office Action rejects Claims 1-6 under 35 U.S.C. § 102(b) as being anticipated by Japanese Patent No. 2001330280 to Nishiyama et al. The Office Action also rejects Claims 16-18 and 37 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,513,500 to Fischer et al. Moreover, the Office Action provisionally rejects Claims 38-40 under the doctrine of obviousness-type double patenting as being unpatentable over Claims 1-5 of copending parent Application No. 10/641,415. The Office Action further provisionally rejects Claims 32-36 under the doctrine of obviousness-type double patenting as being unpatentable over Claims 38-40 of the copending parent application. However, the Examiner has objected to Claims 7 and 8 but indicates that the claims would be allowable if rewritten in independent form to include each of the limitations of Claim 1 and any intervening claims.

Claims 1-31 have been canceled. In light of the amendments and subsequent remarks, Applicant respectfully submits that all of the pending claims are in condition for allowance.

A. The Rejection of Claims 1-6, 16-18, and 37 under 35 U.S.C. § 102(b) is Overcome

Claims 1-31 have been cancelled such that the rejections of Claims 1-6 and 16-18 are overcome. However, Applicant respectfully disagrees with the rejection of independent Claim 37 as being anticipated by Fischer. Claim 37 recites a system including an "air-to-liquid heat pump. . . ; a liquid-to-direct heat exchanger capable of receiving the coolant in the coolant loop; and a cold heat sink in thermal communication with the liquid-to-direct heat exchanger, wherein the cold heat sink is capable of absorbing the heat carried by the coolant received by the liquid-to-direct heat pump, and wherein the cold heat sink comprises at least a portion of an aircraft fuselage skin structure and the liquid-to-direct heat exchanger is shaped based upon a contour of at least a portion of the fuselage skin structure." Fischer does not describe a cold heat sink structured as claimed. In fact, with regard to the skin heat exchanger **41**, Fischer only teaches that the "skin heat exchanger **41** may be arranged on the outer skin **16** of the aircraft fuselage as schematically shown in FIG. 2 (dotted lines)." Thus, while the skin heat exchanger **41** of Fischer

can be arranged on the outer skin, Fischer does not teach or suggest that the cold heat sink can comprise a portion of the fuselage skin structure.

Nor does Fischer disclose an air-to-liquid heat pump. In this regard, Applicant respectfully disagrees with the Examiner's allegation that the heat exchanger 9A of Fischer corresponds to an air-to-liquid heat pump. Applicant submits that there is a distinctive difference between a heat exchanger and a heat pump. As described in the specification of the present application, an air-to-liquid heat pump can *force* the transfer of heat from the interior of the enclosure to a coolant, while an air-to-liquid heat exchanger places a coolant in thermal communication with the interior of the enclosure such that the coolant can transfer heat from the enclosure. Moreover, although Fischer discloses the use of a pump to convey a cooling medium through a distribution conduit system, this particular pump is not a heat pump but, instead, is like the pump (20 and 22) disclosed in the present application, which are utilized to simply convey fluid through the coolant loops. Therefore, Applicant submits that Claim 37 is not anticipated by Fischer.

B. The Double Patenting Rejections are Overcome

The Examiner provisionally rejects Claims 38-40 under the doctrine of obviousness-type double patenting as being unpatentable over Claims 1-5 of the parent application. The Examiner finds that Claims 38-40 of the present application and Claims 1-5 of the parent application both include a heat sink, a first coolant heat sink with a first coolant loop, a second coolant heat sink with a second coolant loop, a heat pump, and a cooling device. Applicant respectfully disagrees with the rejection, as Claims 38-40 are patentably distinct from Claims 1-5 of the parent application. In this regard, Claims 38-40 of the present application include an air-to-liquid heat pump and specify the cooling capacity of the heat sink, which is unlike Claims 1-5 of the parent application where neither an air-to-liquid heat pump nor the cooling capacity of the heat sink are claimed. In fact, the parent application does not even disclose a specific cooling capacity (i.e., 150%). Therefore, Applicant submits that Claims 38-40 are patentably distinct from Claims 1-5 of the copending parent application.

The Examiner believes that Claims 32-36 of the present application and Claims 38-40 of the parent application both include the same limitations, namely, an air-to-liquid heat exchanger, a eutectic thermal battery, a liquid-to-direct heat exchanger, a liquid-to-direct heat pump, a heat sink, and other control modes. However, Claims 32-36 of the present application recite a method of refrigerating an enclosure and do not specifically recite an air-to-liquid heat exchanger, a eutectic thermal battery, a liquid-to-direct heat exchanger, and a liquid-to-direct heat pump. In contrast, Claims 38-40 of the parent application recite a system for refrigerating an enclosure that includes an air-to-liquid heat exchanger, a eutectic thermal battery, a liquid-to-direct heat exchanger, and a liquid-to-direct heat pump. Different elements and combinations of elements of the system of Claims 38-40 could be employed to perform the method of Claims 32-36 of the present application such that the claims are patentably distinct from one another (see specification, p. 19, lines 12-16). For example, an air-to-liquid heat pump and/or an air-to-liquid heat exchanger could be employed to carry heat away from the interior of the enclosure such that materially different systems could perform the steps of independent method Claim 32 (see MPEP §806.05(e)). Furthermore, Claims 32-36 of the present application do not recite a liquid-to-direct heat pump, let alone a thermoelectric or thermionic liquid-to-direct heat pump, which is unlike Claims 38-40 of the parent application. Therefore, Applicant respectfully submits that Claims 32-36 are patentably distinct from Claims 38-40 of the copending parent application.

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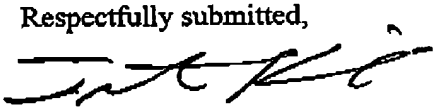
CONCLUSION

In view of the amendments and remarks presented above, it is respectfully submitted that all of the present claims of the present application are in condition for immediate allowance. It is therefore respectfully requested that a Notice of Allowance be issued. The Examiner is encouraged to contact Applicants' undersigned attorney to resolve any remaining issues in order to expedite examination of the present application.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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